

ORIGINAL

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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In the Matter of)
Establishment of Technical Standards)
for the Mobile Satellite Service.)

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY
RM-8223

COMMENTS OF AERONAUTICAL RADIO, INC.

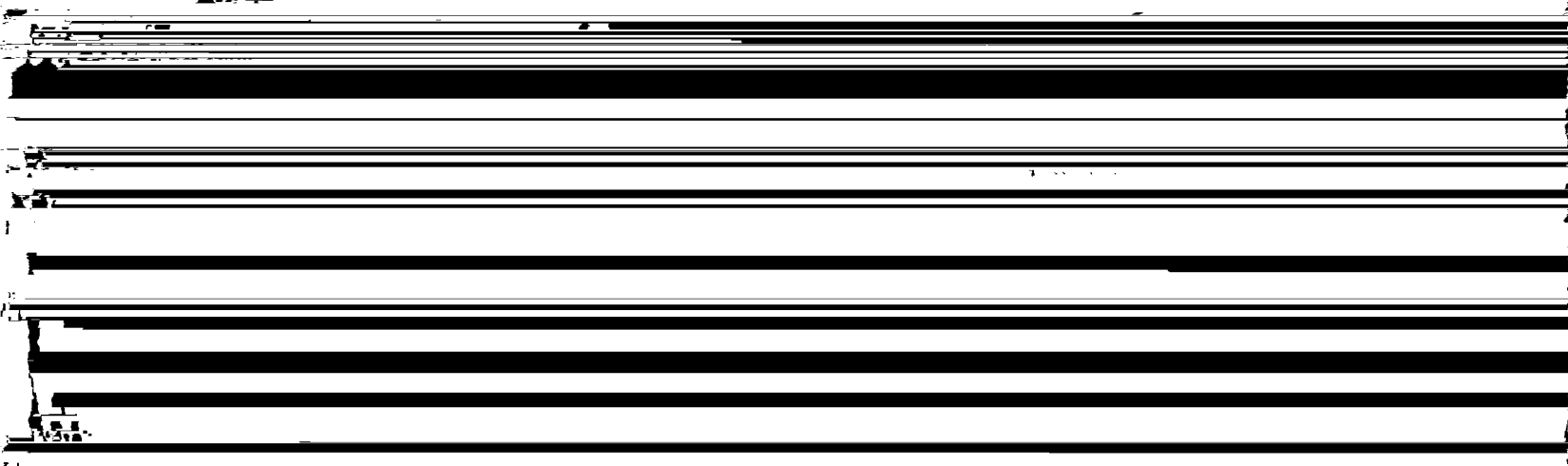
Aeronautical Radio, Inc. (ARINC), by its attorneys, supports the request submitted by the National Telecommunications and Information Administration (NTIA) and the Federal Aviation Administration (FAA) on January 14, 1993, requesting the Commission to undertake a rulemaking to establish technical standards for the mobile satellite service (MSS) operating in the bands 1545 to 1559 MHz and 1646.5 to 1660.5 MHz.

ARINC was established by the air transport industry in 1929 to provide communications facilities and services to that industry. The Federal Radio Commission, the predecessor of the Federal Communications Commission, saw the wisdom in the creation of a single focal point for the growing communications needs of civil aviation. Since that time, ARINC has provided the services and communications expertise necessary to support the safe, economic, and efficient operation of aircraft and the safety of life and property in the air. ARINC and the air transport industry have endeavored for more than 60 years to develop, deploy, and use advanced communications and radionavigation technologies in the public interest.

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Today, ARINC provides a wide variety of communications services to civil aviation. ARINC also sponsors industry committees in the area of communications and electronics that establish the technical bases for communications systems used by the air transport industry. To accommodate aviation's growing communications needs and restricted financial capacity, ARINC has developed a significant in-house technical capability to perform systems engineering for aeronautical communications. Controlled by the users, ARINC can design and implement services when they are needed in the most cost-effective and spectrally efficient way practicable.

NTIA and the FAA now request the Commission to establish technical rules governing the MSS in the upper L-band to protect safety and distress communications from interference. The joint NTIA/FAA petition points to the need for common technical standards and minimum system capabilities to reduce interference in an environment of multiple satellite systems, a variety of services by different service providers, and numerous equipment manufacturers. ARINC heartily concurs with the judgment of NTIA and FAA in this matter.



shared with aeronautical safety and distress communications. There are other parameters that also should be specified, such as suppression of spurious and out-of-band signals, built-in automatic performance monitoring capability, and the time for channel preemption. These matters have been under review by RTCA in its SC-165 activity, which has prepared detailed minimum operational performance standards (MOPS) for the aeronautical mobile satellite service. Compatibility of MSS mobile earth stations and ground earth stations with these MOPS should be established before large numbers of MSS units are deployed in this band.

On behalf of the air transport industry, ARINC operates a number of communications systems. Among these are ARINC's air-ground VHF data communications system, known as ACARS, and its aeronautical satellite service, known as GLOBALink. ARINC designed, constructed, implemented, and enhanced ACARS, which provides reliable data communications with aircraft throughout North America. This system has become the de facto international standard for aeronautical data communications, and compatible systems are being deployed throughout the Pacific Rim and Europe. ARINC's GLOBALink service uses space segments obtained from INMARSAT Signatories and ARINC's ground data communications system to provide reliable data communications to aircraft anywhere in the world.

The operation of these two data communications systems has given ARINC extensive experience in the maintenance of a modern communications system. ARINC has been compelled to establish its own access approval requirements for ACARS and GLOBALink. These access requirements are necessary because the communications handled are vital to the safe and efficient operation of aircraft, but this additional screening by ARINC of airborne equipment would not be dictated by the pure economic interests of the communications system. That is, ARINC polices the 4,000 aircraft that use ACARS and GLOBALink because failure of communications can impair safety and availability, not because miscreant radios cause a financial harm to the system. A market-driven system might accept lesser performance and a greater threat to safety and distress communications, especially where the frequency band is shared by different services with different objectives.

The joint NTIA/FAA letter also notes that INMARSAT has been encountering an increasing number of interference problems. In addition to these intrasystem difficulties, there has been at

least one instance of an INMARSAT terminal causing interference

equipment authorization procedures as well as operational requirements to ensure minimum technical compliance prior to the marketing of these units. The desirability of such a program should be considered in the technical standards rulemaking.

ARINC and the airlines were granted waivers of the type acceptance rules in Part 87 and began implementation of GLOBALink. Among the conditions imposed on aviation was that type-accepted equipment be employed as soon as the technical standards were adopted in Private Radio Docket 90-315. This rulemaking was completed by Report and Order released September 9, 1992,¹ and all equipment used in conjunction with GLOBALink is now type-accepted. The burden of type acceptance is modest and can provide a measure of assurance that radios being sold for use in the safety communications band will respond to the safeguards required by footnotes US308 and 279A of the National Table of Frequency Allocation (47 C.F.R. § 2.106) and the Commission's policies on MSS.

The American Mobile Satellite Corporation (AMSC) is currently leasing INMARSAT space capacity from Comsat and providing an MSS service in the bands 1530 to 1544 MHz and 1626.5 to 1645.5 MHz. AMSC and Rockwell International have obtained licenses for mobiles to operate with this service. The Commission should move promptly to establish the technical parameters for these mobile operations before an excessive number

¹ Aircraft Earth Stations, 7 F.C.C. Rcd. 5895 (1992).

of units are deployed and before these companies seek to move their operations into the 1545 to 1559 MHz and 1646.5 to 1660.5 MHz bands. The greater the number of units in use, the more difficult retrofitting non-compliant units becomes.

For the foregoing reasons and those set out in the joint NTIA/FAA request, ARINC urges the Commission to initiate a rulemaking to establish technical standards for the MSS in the bands 1545 to 1559 MHz and 1646.5 to 1660.5 MHz as set out in the NTIA/FAA request and compatible with the work of RTCA SC-165.

Respectfully submitted,
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June 4, 1993

CERTIFICATE OF SERVICE

I, Linda K. Hetrick, hereby certify that on this 4th day of June, 1993, I caused copies of the foregoing "Comments of Aeronautical Radio, Inc." to be mailed via first-class postage prepaid mail to the following:

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